



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,454	02/18/2004	Corey W. Bucher	013002-9052-01	1757

23409 7590 03/10/2005

MICHAEL BEST & FRIEDRICH, LLP
100 E WISCONSIN AVENUE
MILWAUKEE, WI 53202

EXAMINER

TORRES, ALICIA M

ART UNIT	PAPER NUMBER
----------	--------------

3671

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.



Office Action Summary

Application No.

10/781,454

Applicant(s)

BUCHER, COREY W.

Examiner

Alicia M Torres

Art Unit

3671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-31 is/are allowed.
- 6) ☒ Claim(s) 3 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rich in view of Husqvarna and Weinheimer.

Rich discloses a riding lawnmower (10) comprising:

a frame (14);

an engine (12) supported by the frame (14);

a mower deck (16) supported by the frame (14);

a rotating cutting blade (not shown) disposed below the mower deck (16);

a PTO (see column 6, lines 28-31) coupling the engine (12) and the rotating cutting blade to rotationally drive the cutting blade;

a drive system (see column 6, lines 36-40) connected to the frame (14) and coupled to the engine (12) for driving the lawnmower (10).

However, Rich fails to disclose a tilt sensor for sensing a tilt angle representing the orientation of the lawnmower with respect to a horizontal level plane, the PTO being disengaging from the engine to stop rotation of the cutting blade when the tilt angle exceeds a pre-determined limit angle, the drive system remaining operable to drive the lawnmower when the PTO is disengaged to stop rotation of the cutting blade,

Wherein the tilt sensor includes a tip switch for providing the limit signal when the tilt angle exceeds the limit angle.

Husqvarna discloses in the Auto Mower, a tilt sensor for sensing a tilt angle representing the orientation of the lawnmower with respect to a horizontal level plane, the PTO being disengaging from the engine to stop rotation of the cutting blade when the tilt angle exceeds a pre-determined limit angle, the drive system remaining operable to drive the lawnmower when the PTO is disengaged to stop rotation of the cutting blade (see the enclosed www.PopularMechanics.com article, page 4/5, the paragraph beginning “Under the hood, the Auto Mower...”).

Weinheimer discloses a tilt sensor including a tip switch (10) for providing a limit signal when the tilt angle exceeds the limit angle.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the tip switch of Wienheimer on the mower of Rich and Husqvarna in order to detect a variety of positions.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rich in view of Husqvarna and Floris et al., hereafter Floris.

Rich discloses a riding lawnmower (10) comprising:

a frame (14);

an engine (12) supported by the frame (14);

a mower deck (16) supported by the frame (14);

a rotating cutting blade (not shown) disposed below the mower deck (16);

a PTO (see column 6, lines 28-31) coupling the engine (12) and the rotating cutting blade to rotationally drive the cutting blade;

a drive system (see column 6, lines 36-40) connected to the frame (14) and coupled to the engine (12) for driving the lawnmower (10).

However, Rich fails to disclose a tilt sensor for sensing a tilt angle representing the orientation of the lawnmower with respect to a horizontal level plane, the PTO being disengaging from the engine to stop rotation of the cutting blade when the tilt angle exceeds a pre-determined limit angle, the drive system remaining operable to drive the lawnmower when the PTO is disengaged to stop rotation of the cutting blade,

Wherein the tilt sensor includes an inclinometer for measuring the tilt angle and providing a numerical value for the tilt angle.

Husqvarna discloses in the Auto Mower, a tilt sensor for sensing a tilt angle representing the orientation of the lawnmower with respect to a horizontal level plane, the PTO being disengaging from the engine to stop rotation of the cutting blade when the tilt angle exceeds a pre-determined limit angle, the drive system remaining operable to drive the lawnmower when the PTO is disengaged to stop rotation of the cutting blade (see the enclosed www.PopularMechanics.com article, page 4/5, the paragraph beginning “Under the hood, the Auto Mower...”).

Floris discloses tilt sensor including an inclinometer (unnumbered, see column 4, lines 16-19) for measuring the tilt angle and providing a numerical value for the tilt angle.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the tilt sensor of Floris on the mower of Rich and Husqvarna in order to sense angular positions.

Allowable Subject Matter

4. Claims 5-31 are allowed.

Response to Arguments

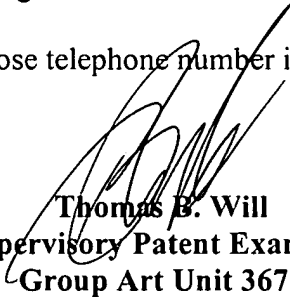
5. Applicant's arguments with respect to claims 3 and 4 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Torres whose telephone number is 703-305-6953. The examiner can normally be reached Monday through Thursday from 7:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached at 703-308-3870.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 703-305-1113. The fax number for this Group is 703-872-9306.


Thomas B. Will
Supervisory Patent Examiner
Group Art Unit 3671

AMT March 7, 2005